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## How can value co-creation be integrated into a customer experience evaluation?

Hsin-Yun Lee <sup>a,b,\*</sup>, Vadim Grinevich <sup>c</sup>, Maxwell Chipulu <sup>d,b</sup>

<sup>a</sup> National Ilan University, Taiwan

<sup>b</sup> Southampton Business School, University of Southampton, UK

<sup>c</sup> University of Bradford, UK

<sup>d</sup> Edinburgh Napier University, UK

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### ABSTRACT

With the arrival of the service economy, businesses across different sectors have to rely increasingly on service design, with its focus on the viewpoints of customers and their experiences. Existing frameworks for evaluating customer experience tend to neglect the connection between customer experience and value co-creation, which is critical for enhancing the performance of service design. The aim of this conceptual paper is, therefore, to develop a customer experience evaluation framework that is coherently integrated with the value co-creation construct. It is achieved by intersecting the most relevant insights from prior approaches to evaluating customer experiences with a theoretical interpretation of service value as value in the experience that is always co-created and uniquely determined by the customer's personal lived and imagined experiences. The proposed framework is original in its theorizing of the evaluation process as a transformation from a customer experience evaluation to a synchronized evaluation of value in the experience and value co-creation throughout and beyond the service process. The framework proposes to utilize it in both major service redesign and on-the-spot service improvements, which are extremely relevant to businesses operating in highly competitive environments. The proposed framework is designed to guide future empirical evaluations, accommodate new theoretical extensions, and inform practical applications to design service offerings as unique and preferred experiences for customers.

### 1. Introduction

With the arrival of the service economy, most business offerings need to have a service component (O'Cass et al., 2013). Modern managers are constantly concerned with how to improve service provided to customers, rearrange service procedures, replace the service content, and reduce disruption to customers (Bei & Shang, 2006). Critical in addressing these issues is service design (Polaine et al., 2013), with its focus on the viewpoints of customers and their experiences, rather than those of a firm (Zomerdijk & Voss, 2010). The customer's experience can be understood as their personal interpretation of, or feelings about, the service process and their engagement and involvement with this process through a series of either actual or imaginary touch points; consequently, as the experience is inherently personal, no two individuals will have the same experience (Helkkula et al., 2012; Johnston & Kong, 2011). Following Vargo and Lusch's (2008) service-dominant (S-D) logic, customer experiences and perceptions are essential for

determining value, with the latter always being co-created by service providers, customers, and other relevant actors (e.g., governments, employees, and other stakeholders). Value is, therefore, uniquely determined by the customer (the ultimate beneficiary) in the co-creation process, while co-creation itself is essentially an "interactional creation" by which value is jointly expanded (Ramaswamy & Ozcan, 2018).

Fluctuations in customer experiences are seen to reflect the strength of and variations in customer perceptions that determine co-created service value (Jaakkola & Alexander, 2014; Sweeney et al., 2015). While it is increasingly recognized that there is continuous interplay between customer experiences and value co-creation (Ramaswamy & Ozcan, 2018), service design studies have yet to engage fully with the value co-creation construct in their customer experiences evaluations (Helkkula et al., 2012). In their study on how the service design approach can reframe new service development to embed interlinks between customer experience and value co-creation, Yu and Sangiorgi (2018) explicitly propose extending the new service development model

\* Corresponding author. National Ilan University, Taiwan.

E-mail addresses: [hylee@niu.edu.tw](mailto:hylee@niu.edu.tw) (H.-Y. Lee), [v.grinevich@bradford.ac.uk](mailto:v.grinevich@bradford.ac.uk) (V. Grinevich), [m.chipulu@napier.ac.uk](mailto:m.chipulu@napier.ac.uk) (M. Chipulu).

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by incorporating an evaluation stage that enables continuous service improvement and development. This makes it extremely relevant to theorize how value co-creation can be integrated into customer experience evaluations. Critically, this is also of particular importance for businesses that primarily care about value creation and value capture when engaging with service design. Relatively complex and long-term project-based professional services (e.g., architectural and design services, advertising) can especially benefit from carrying out evaluations of customer experience and co-created value during the service process (Ng et al., 2016).

Hence, the aim of this conceptual paper is to develop a customer experience evaluation framework that is coherently integrated with the value co-creation construct. This is achieved by intersecting the most relevant insights from prior approaches to evaluating customer experiences, including the time-dependence and multidimensionality perspectives (Jain et al., 2017; Voorhees et al., 2017), with a theoretical interpretation of service value as value in the experience, which is always co-created and uniquely determined by the customer's personal lived and imagined experience, which may be related to solving problems, enjoying the service program, and interacting with service providers (Helkkula et al., 2012; McColl-Kennedy et al., 2019; Vega-Vazquez et al., 2013), among other things.

The developed framework is original in its theorizing of the evaluation process as a transformation from a customer experience evaluation to a synchronized evaluation of value in the experience and value co-creation throughout and beyond the service process. The framework proposes to utilize it in both major service redesign and on-the-spot service improvements. The latter are becoming particularly relevant, given that businesses are increasingly operating in highly competitive environments. In this context, relying on final feedback from a customer may not be sufficient to retain them (Klaus & Maklan, 2013; La & Choi, 2012).

The paper proceeds to review the most relevant service design developments related to customer experience evaluation before integrating and extending them in the proposed framework for evaluating value co-creation through value in experience assessment. This is followed by a discussion of the theoretical implications and practical relevance of the proposed framework.

## 2. Theoretical foundations

The theoretical motivation and foundations of the paper are shaped by the key developments in the literature related to the evaluation of customer experience and value co-creation and their implications for service design. These developments are validated by conducting a systematic literature review (see Appendix A) and problematized as follows.

### 2.1. Customer experience in service design

Service design is critical in developing the functionality and form of a service offering (Mager, 2009). It helps to structure the processes of generating service ideas; transforming these ideas into service concepts and prototypes; testing them, evaluating them, and presenting them to service users; and collecting feedback (Bitner et al., 2008). Most commonly, service design is defined as a hands-on activity that describes and details a service, service system, and service delivery process (Gummesson, 1994; Lin & Cheng, 2015). A majority of studies agree that the user perspective is central to service design. Mager (2007, p. 355), for instance, states that "service design addresses the functionality and form of services from the perspective of clients and it aims to ensure that service interfaces are useful, useable, and desirable from the client's point of view and effective, efficient, and distinctive from the supplier's point of view." This interpretation of the service design is used in many service design frameworks to embed and implement various service design procedures (Teixeira et al., 2017). In addition, numerous

frameworks and methods have been developed to structure, map, and extend service design. Sampson (2012), for instance, proposes the process chain network (PCN) analysis, which forms process networks for service operations and facilitates process improvement by outlining options and principles.

The service design literature also emphasizes the tracking and analysis of customer experiences as an important practical task. For example, according to Gummesson (1990), it is necessary to account for customer involvement in the production and delivery of services. In other words, in service design, it is important to consider the experiences of customers as users of services provided by firms. Customer experiences originate from sets of interactions between a customer and related goods, systems, or processes as well as a firm or part of its organization, which in turn provoke a reaction (Gentile et al., 2007). This includes customers' behavioral responses and involvement at different levels (rational, emotional, sensorial, physical, and spiritual) that are personal and continuous (Chandler & Lusch, 2015).

There is growing consensus that developing exceptional customer experiences is essential to successful service design (Keyser et al., 2020). When developing services, firms must understand customer outcomes and processes and plan the customer experience they wish to deliver. Service operators must pay collaborative attention to service design to facilitate memorable customer experiences (Zehrer, 2009). Customer experiences are viewed as the core of service design to the extent that service design itself is sometimes defined as the design of customer experiences (Pine & Gilmore, 1998).

Evaluating customer experiences is therefore key to service design, providing firms with a basis for service performance assessments. To improve service design, firms deploy evaluation methods to understand customer experiences. The outcomes of service design change prompt the consistent development of evaluation methods (Klaus & Maklan, 2013). The latter has evolved over time in line with firms' learning experiences and changing viewpoints on customer experiences. More specifically, the orientations of these evaluation methods have evolved from being static to time-dependent; from service-provider- to customer-centric multidimensionality; and from received to co-created experiences, exposing the need to integrate evaluations of customer experience and value co-creation.

### 2.2. Evolution of customer experience evaluations

#### 2.2.1. From static to time-dependent evaluations

Customer experience evaluations originated in studies measuring customer satisfaction. Customer satisfaction approaches are based on estimating the distance between customer expectations from a service and actual customer experience (Huang & Dubinsky, 2014). Customer satisfaction is measured at a certain point in time (generally after customers have completed their service experience). This approach represents a static measure of customer experiences. While the static measurement of customer satisfaction can provide key inputs for service design, it fails to capture the journey of a customer's experience (Klaus & Maklan, 2013), which is critical in successful service design. This is also associated with issues such as biases and the fragmentation of recall, which may distort the overall understanding of customer experiences (La & Choi, 2012).

A few studies have addressed the limitations of the static view by introducing a time-dependent (or evolutionary) perspective (Følstad & Kvale, 2018; Voss et al., 2008). Researchers have developed customer journey conceptualizations to provide structured service design principles and flowcharts to capture the interactions of a firm and a customer at all stages of the customer experience (Lemon & Verhoef, 2016; Varnali, 2019). These conceptualizations are substantially influenced by the prior literature on service blueprinting (Chang & Horng, 2010; Gummesson, 1994; Shostack, 1984). Based on such conceptualizations, some studies have proposed service design methods that focus on the steps that customers undertake when experiencing a service (Patrício et al.,

2011; Sampson, 2012).

From the time-dependent perspective, customer experience is a process shaped by a series of exchanges between a customer and a firm, other customers, or any individual who may or may not be related to the offerings of a target service (Helkkula et al., 2012). Furthermore, customer experiences can be affected by an external environment in which players and the context of service often fluctuate. It can also be affected by customers' personal characteristics, experiences, perceptions (e.g., knowledge, skills, and judgments), and emotions, all of which are subject to change. These variations in the external environment, as well as in customers' characteristics and interactions, shape customer experiences before, during, and after each service encounter (Chandler & Lusch, 2015; Verhoef et al., 2009).

While the time-dependent perspective presents a more robust interpretation of customer experiences, the static perspective dominates the evaluation of customer experiences (Lemon & Verhoef, 2016). The literature lacks evaluation frameworks that are based on the time-dependent perspective and that account for the service process and service encounters in their entirety (Klaus & Maklan, 2013), with such frameworks being necessary for the comprehensive utilization of customer experiences in service design.

### 2.2.2. From service-provider- to customer-centric multidimensionality evaluations

The focus on service design evaluations has shifted from service providers to customer and customer experiences. Initially, service design emphasized the performance of service providers and their offerings. Shostack (1984), for example, proposes a blueprint framework that focuses on the structuralization of service flows and capturing customer experiences from a service designer viewpoint. Parasuraman et al. (1985) pioneer service quality models by introducing a customer expectations variable into their service evaluation. Nevertheless, this model and its extensions (Coulthard, 2004) evaluate service quality in the context of service processes defined by a service provider. In addition, service quality evaluations using this model have been criticized for assuming that high-quality service encounters always lead to high-quality customer experiences (Chang & Horng, 2010; Klaus & Maklan, 2013). In an attempt to address this critique, service design studies have evolved with a focus on customer experiences (Trischler et al., 2018). In other words, service performance is defined by the customer's judgment rather than by the objective quality of a given service offering. Thus, there is a need to evaluate customer experiences directly.

In addition to the shift in focus from service providers to customer experiences, service evaluations have turned their attention to evaluation dimensions (Chahal & Dutta, 2015a, 2015b; Chahal et al., 2015). Previously, Parasuraman et al. (1985) proposed provider-centric dimensions (e.g., reliability, responsiveness, competence, access, courtesy, communication, credibility, security, and understanding/knowing) to help evaluate service quality from a technical viewpoint; however, these dimensions offer limited information on customer feelings and perceptions. As a result, other scholars have suggested a diverse set of dimensions including hedonic, emotional, cognitive, and relational ones (Gentile et al., 2007). While the related literature contributes substantially to our understanding of the multiple dimensions of customer experiences, its focus is limited to final evaluation frameworks, with no temporal axis (Chang & Horng, 2010). That is, the evaluations are generally performed once a customer's experience is complete, which provides little or no insight into experiential time-dependent changes (e.g., the fluctuating history of scaled experiences). Thus, there are calls to integrate customer experience multidimensionality and time-dependence perspectives to enhance experience-centric service design (Zomerdijk & Voss, 2010).

### 2.2.3. From received to co-created experience evaluations

Until recently, customer experiences were evaluated using

frameworks in which a service provider designed and delivered a service while the customers were on the receiving end, making little contribution to creating the service experience (Klaus & Maklan, 2013). This output-centered approach is associated with evaluations in which a service is treated like a good. Customer experiences were understood as a customer's reaction once the service had been received (Agapito et al., 2013). While some studies consider service offerings in the context of service firms and customers, the service itself is still viewed as a passive experience, with firms delivering services and customers providing feedback (Hume et al., 2006).

This approach has drawn numerous critiques. For instance, in their conceptualization of the S-D logic, Vargo and Lusch (2004) argue that customers are co-creators of service and should play the role of participants and not just receivers, and that service firms should be facilitators rather than providers. Customer experiences with services cannot be understood as a standard outcome of service delivery. Rather, a distinct complex of customer participation in service co-creation generates unique implications for individual customer experiences (Hamidi & Machold, 2020; Helkkula et al., 2012). When customers co-create their experiences, these experiences differ from those of other customers. Thus, to evaluate service experiences more holistically, it is important to depart from the "provider-receiver approach" to fully appreciate the service co-creation journey, which involves both the service provider and the customer.

Evaluations of co-created experiences that are based on customer feedback received following a service experience cannot be sufficiently informative (Trischler et al., 2018; Verleye, 2015). It is also argued that customer experiences cannot be properly understood without taking into account individual dynamic elements of customer experience co-creation as well as its history (Bueno et al., 2019; Lemon & Verhoef, 2016). We propose that the integration of three essential approaches—time dependence, multidimensionality, and co-creation—should lead to a more complete evaluation throughout and beyond the service process, capturing the evolutionary nature of co-creation and involving multiple interplays between the customer and other participants.

### 2.2.4. Towards integrating customer experience and value co-creation

It is essential to understand service value when designing a successful service, and evaluating customer experiences can help enhance this understanding (Grönroos, 2008; Yu & Sangiorgi, 2018). "Value is benefit, an increase in the well-being of a particular actor" (Lusch & Vargo, 2014, p. 57). In the S-D logic literature, the construct of value is understood as value-in-use (Ranjan & Read, 2019; Vargo et al., 2008). Following this argument, service value occurs when the service offering is used by a given customer. Correspondingly, service value, as the "value-in-use," is perceived and determined by the customer. From the customer point of view, the value-in-use occurrence represents a journey of personal experiences that may not be limited to previous and present experiences of resource integration and interactions with other actors and service providers. This can also involve potential or future experiences constructed by the imagination or informed by indirect sources such as stories and feedback from other actors (Helkkula et al., 2012). To emphasize that service value is temporal in nature and can be derived from both lived and imagined experiences, there is an emerging trend in the literature to use the term "value in the experience" instead of the term "value-in-use" (Helkkula et al., 2012).

At the core of both value-in-use and value in the experience constructs lies the notion of value co-creation. Value co-creation can be affected by the intensity of a customer's participation in collaboration with the service provider and other actors (Corsaro, 2019; Wang et al., 2019). Customer participation can include both proactive behavior (Yi & Gong, 2013) and "passive" processes (e.g., exhibiting various emotions, and changing one's mind and perceptions) that result in a customer adopting a subjective perspective on every service. The value in the experience construct, however, elevates the notion of value co-creation being contingent on the integration of other actors and

resources, which is context-specific and iterative (Helkkula et al., 2012; Lusch & Vargo, 2014).

The above argument implies that service value cannot be adequately captured by customer evaluation frameworks based on measuring service quality (Medberg & Grönroos, 2020; Roy et al., 2019; Tang et al., 2015; Woratschek et al., 2020) or customer satisfaction (Vega-Vazquez et al., 2013). Service value cannot be reduced to the quality of a service offering, that is, the quality of inputs based on the benchmarks or physical standards of service delivery attributes (e.g., first class versus economy class). Similarly, service value cannot be reduced to customer satisfaction determined by comparing customer expectations and actual experiences following service delivery (Vega-Vazquez et al., 2013). Evaluating customer experience by capturing value in the experience that is always co-created, temporal, and contextually specific represents a more meaningful way of estimating service value emerging from service design. However, the link between customer experience and value co-creation remains rather weak in the relevant literature (Horbel et al., 2016; Zeeshan et al., 2019). In the context of new service development, this is explicitly highlighted by Yu and Sangiorgi (2018), who propose using service design as an approach to implement the value co-creation perspective and enable a customer-centric logic. When it comes to integrating customer experience and value co-creation evaluations, as evidenced by our systematic literature search (Appendix A), there are no general or meta frameworks available to guide empirical evaluations, accommodate theoretical extensions, and inform practical applications.

### 3. A proposed integrated customer experience–value co-creation framework

#### 3.1. Assumptions

Drawing on theoretical insights from the evolution of customer experience evaluations and the value co-creation perspective (as discussed above), we offer an integrated framework for evaluating value co-creation through customer experience in service design. The model proposed by Yu and Sangiorgi (2018) provides a valuable insight for developing the service prototype with the exploration of user experience and potential value cocreation. Based on their studies, we propose an integrated customer experience–value co-creation framework for the whole progress of service design. Illustrated by Fig. 1, its theoretical assumptions are influenced by the value in the experience argument. An interplay between customer experiences and co-created value is

conceptualized as a synchronized formation before, during, and beyond the service process. Customers and firms possess resources that are being integrated with other customers and firms in the wider network and their resources. Put another way, resource integration between a given customer and a given firm in relation to a given service process occurs not only between them but also with other actors in the network, and this takes place before, during, and after the service process. The resources used by actors for integration may come from other actors; may be common resources that are available to all in the public space; or may be the product of prior resource integration.

An ongoing integration of resources by actors results in ongoing activities, where actors may be actively involved or passively accepted. It is this co-created process of activity that forms a particular experience. The experience is the origin of value. When a customer shapes their experience in the journey, the experience properties enable a transformation from resource integration to value co-creation (Storbacka et al., 2016). When an actor realizes in their own experience that they have benefited, the value in the experience emerges and is recognized by the actor. For a given customer, personal experience before, during, and after the start of the service process continues to generate value in the experience. Every incidence of service creates a unique experience for the customer to assess value from. Customer experience represents a time-dependent accumulation, and the value in the experience at each point in time is a component of the co-created value of the service process.

While the co-created value is determined by the customer, the firm (i.e., the service provider) contributes to the co-created value with its experience of delivering the service offering. This may include experiences of front-line service employees, field managers, and decision makers at different levels. The value co-created with a firm’s experience as a resource may, for instance, come from the firm’s interpersonal adaptive reactions, behavior, and service offering modification (Frey--Cordes et al., 2020; Luu et al., 2018). Outside the service process, the firm is only indirectly involved in value co-creation. Indicated as value facilitation (Grönroos & Voima, 2013) in Fig. 1, this may include training staff before the service process and maintaining automated customer service systems beyond the service process. We therefore assume that the firm’s contribution to the co-created value with a customer goes beyond a limited focus on service content and quality, and has to encompass the firm’s experience, as increasingly implied by the emerging literature elsewhere including that on new service development (Yu & Sangiorgi, 2018).

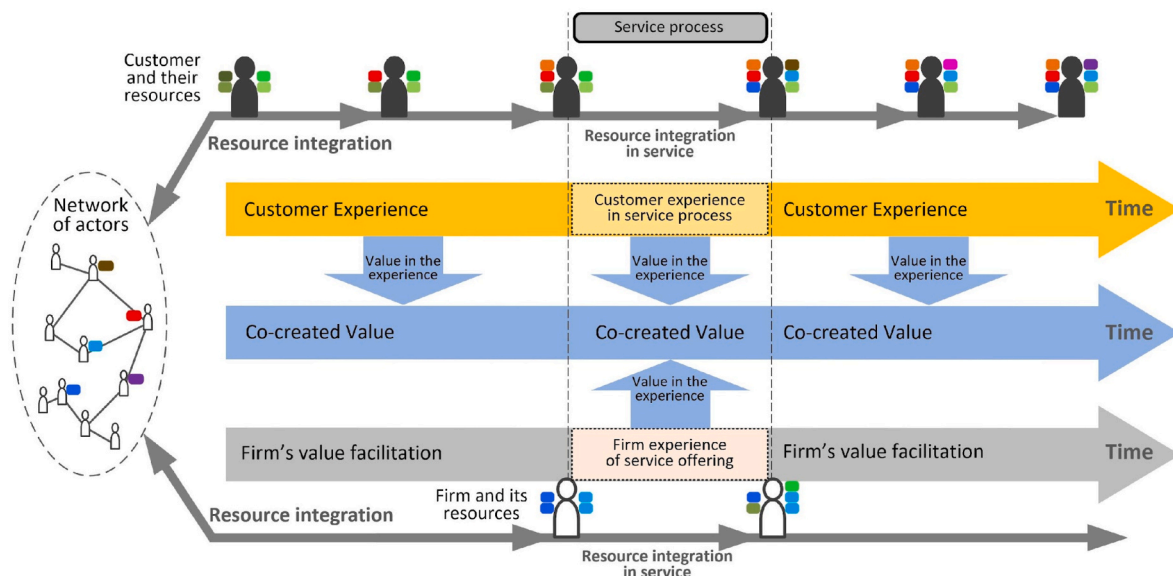


Fig. 1. An integrated customer experience–value co-creation framework: assumptions.

Based on the above assumptions, the proposed integrated customer experience–value co-creation framework is “zoomed in on” and further detailed by Fig. 2. It shows that assessing value in the experience (Box 1) and evaluating value co-creation (Box 2) have to be carried out together during the service process and beyond. The value assessed in Box 1 is based on the customer experience. The value in the experience of the firm is determined by the customer, too. When value can be observed and assessed in the experience, evaluating value co-creation (Box 2) becomes a viable measure for the firm’s service design. The framework proposes four mechanisms that make it possible to tie customer experience to value co-creation and, therefore, overcome limitations of previous customer experience evaluations. These mechanisms are concerned with activity flow formation, on-the-spot service enhancement, value co-creation evaluation, and value co-creation-driven service redesign, as depicted by the arrows in Fig. 2.

3.2. Activity flow formation

Forming customer activity flow (Arrow 1 in Fig. 2) represents an important starting point in assessing value via reviewing customer experience (Lemon & Verhoef, 2016; Trischler et al., 2018). Building on the prior conceptual insights, our framework views customer activity flow as a time-dependent and multidimensional customer journey. Correspondingly, review of customer experience needs to be both time-dependent and multidimensional. Table 1 proposes key means and schemes for such a review. In particular, the framework proposes a structured experience assessment, interpreting the customer journey as a dynamic series of experience levels reflecting cognitive, social, emotional, affective, and physical interactions between a customer and a firm. This assessment makes it possible for a firm to examine a customer’s real-time activity flow from the customer’s point of view. It is designed to capture on-the-spot experiences and variations in a customer’s personal judgment at consequent segments of the service experience. Activity flow formation facilitates the review of customer experience and implements the assessment of value in the experience. To quantify the experience, we propose a simple and prompt measure and scale that enable multiple assessments. Illustrated by Appendix B,

Table 1

Reviewing customer experience for assessing value in the experience (corresponding to Box 1 in Fig. 2).

Customer experience characteristics	Schemes for reviewing customer experience for assessing value in the experience
Time dependency	<ul style="list-style-type: none"> <li>Adapted from Diener et al. (2010), Crosier and Handford (2012), and Silva and Caetano (2013).</li> <li>Customers indicate the experience level every time they complete an activity. Levels may indicate positive and negative directions, as proposed by hedonic and social psychology studies. The surveyed and scaled positive and negative customer experience levels are translated in an index to quantitatively capture the quality of the experience. See Appendix B for the proposed scale and curving method.</li> <li>Customer experiences are evaluated at different time points and the outcomes are used to understand relative changes during the activity flow.</li> <li>Fluctuating experience levels provide an overview of a given customer’s experience from all touch points, through to service completion.</li> </ul>
Multidimensionality	<ul style="list-style-type: none"> <li>Adapted from Gentile et al. (2007), Chang and Horng (2010), Patrício et al. (2011), Lemon and Verhoef (2016), and Pelletier and Collier (2018).</li> <li>There is no consistent or uniform approach to capturing the dimensionality of customer experiences. We propose to prioritize the selection of a suitable set of customer experiential dimensions over establishing the most generalizable and purified dimension set.</li> <li>We suggest that the experiential dimensions by Verhoef et al. (2009) are most relevant. These cover customer experience constructs related to cognitive, affective, emotional, social, and physical responses to service providers. We apply these five dimensions to the entire time-dependent customer experience (i.e., all the stages of a service) to unpack the diversity of customer experiences and perceptions of a service.</li> </ul>

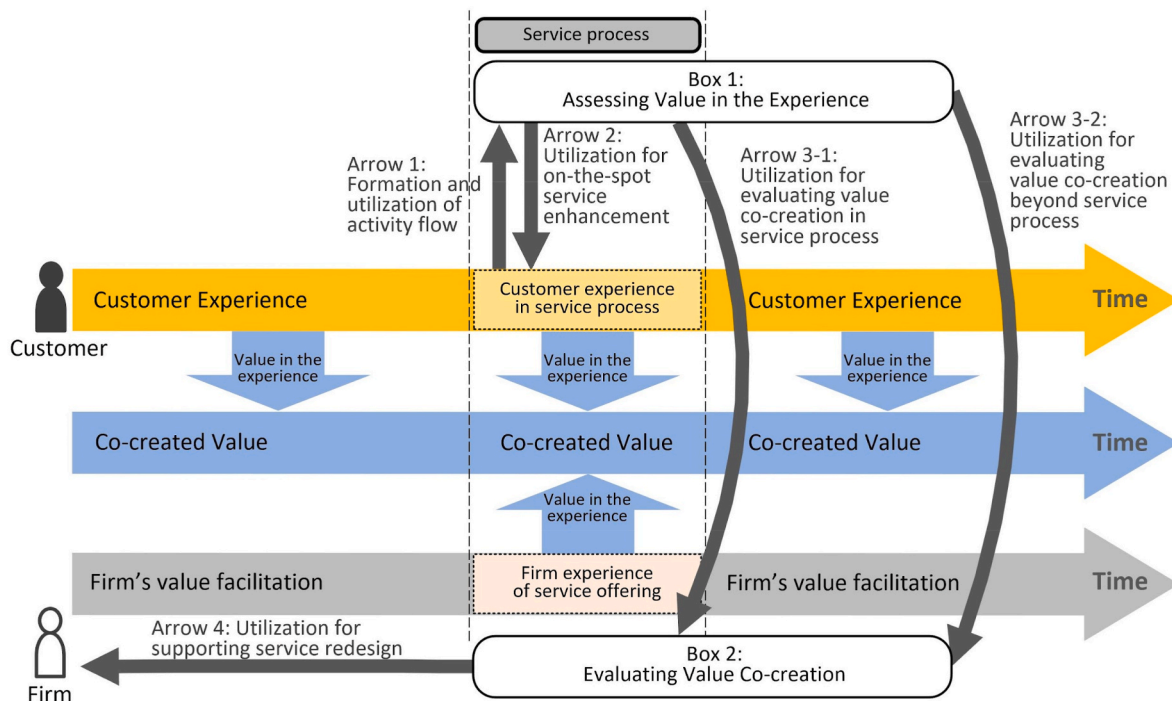


Fig. 2. An integrated customer experience–value co-creation framework: enabling mechanisms.

the scale and curving for the evaluation scheme can conveniently be applied for time-dependent multidimensional evaluations.

### 3.3. On-the-spot service enhancement

The mechanism of a structured activity flow can provide a firm with specific information on time-dependent multidimensional elements of service offerings that may need to be revisited in order to retain the customer in question. Increasingly, it is imperative for firms to immediately intervene to make on-the-spot service enhancements and reduce the probability of getting negative customer feedback once the service is completed (Megargel et al., 2018). Hence, the proposed framework introduces a mechanism through which a firm can apply the results of on-the-spot assessments and make timely enhancements to the service processes (Arrow 2 in Fig. 2). This mechanism is distinct in the sense that any enhancement action taken will reflect and correspond to the value in the experience of a given customer, who ultimately defines what a service value is.

An on-the-spot structured assessment of value in the experience can be complemented by a collection of brief unstructured customer feedback on a completed activity. This can include on-the-spot nondisruptive conversations to solicit a customer's comments on their experiences, reflections on their feelings, preferences, and recommendations. Customers may also be asked to elaborate on the reasons for reporting a certain experience level. A combined time-dependent assessment of experience levels and unstructured feedback can significantly enhance the firm's capability to understand and enhance a customer's experience during the service (Trischler et al., 2018).

Soliciting structured (e.g., via a survey) and unstructured (e.g., via conversations) feedback and acting on its assessment in a timely manner can be complex (Liu et al., 2016; Torres et al., 2019) and require some organizational effort and investment on the part of the firm. Seeking feedback during the service may also potentially affect the perception of the service in question and its value. Yet, because of the latest advances in digital interactive technologies combined with an increasing uptake of digital innovation by businesses, the complexities and costs involved in on-the-spot assessments are already diminishing and unlikely to represent a serious obstacle for the on-the-spot service enhancement mechanism in the nearest future (Megargel et al., 2018; Ramaswamy & Ozcan, 2018). This does not rule out new challenges related to the digital era, though. For instance, the wide accessibility of advanced digital interfaces can make both structured and unstructured customer experience assessments less intrusive in terms of effort required from customers (Holmlund et al., 2020), but more intrusive in relation to the privacy of a given consumer's experience. The latter is likely to emerge as a key challenge for a firm when it comes to understanding and benefiting from interactive dynamics between consumer experience and service value.

### 3.4. Value co-creation evaluation

It is sometimes argued that value co-creation is difficult to observe and, therefore, challenging to manage and design (Horbel et al., 2016; Storbicka et al., 2016). Yet the co-creation experiences of an individual, which are viewed as a defining construct in the value co-creation concept (Ramaswamy & Ozcan, 2018; Pham et al., 2019), can be observed, evaluated, designed, and redesigned. The proposed framework, therefore, makes the utilization of the value in the experience assessment during and beyond the service process a distinct mechanism (Arrows 3–1 and 3–2 in Fig. 2) capable of informing an evaluation of value co-creation. We argue that assessing time-dependent and multi-dimensional value in the experience of a given customer makes it possible to observe the occurrences of value co-creation and provides a platform for their evaluation. Approaching the relationship between customer experiences and value co-creation throughout and beyond the service process allows a given firm to explore a customer's experience

journey through the lens of value emergence, evolution, and accumulation.

Previous related research provides some insights into facets of the value co-creation evaluation. Of these, the most relevant originate in studies on hedonic and social psychology. This research classifies experiences in levels (Silva & Caetano, 2013) and translates them to scales of positive and negative experiences (Crosier & Handford, 2012; Diener et al., 1985, 2010; Silva & Caetano, 2013). We propose to extend this method by combining the scale and curving with a customer activity flow (see Appendix B). This combination introduces facets of the value co-creation evaluation (Table 2) that enable capture of fluctuations in and evolution of customer experience. The proposed facets connect fluctuations in customer experience levels with volatility in value co-creation, assuming that positive and negative reactions and feelings expressed by the customer during service activities produce key reference points for evaluating value co-creation. We propose that trends shown in these time-dependent fluctuations (e.g., stable increase to the

**Table 2**  
Evaluating value co-creation via assessing value in the experience (corresponding to Box 2 in Fig. 2).

Facets of value co-creation evaluation	Evaluation schemes
Fluctuations and evolution of levels to evaluate volatility of value co-creation	<ul style="list-style-type: none"> <li>● Extended from Karapanos et al. (2010) and Ariely and Carmon (2000).</li> <li>● Static levels of customer experiences are linked to indicate fluctuations. These are used to evaluate the volatility of value co-creation for each completed activity.</li> <li>● Evaluation of fluctuations centers on relative changes. This enables quantitative analysis of dynamic and evolutionary customer experiences.</li> <li>● Comparing changes between the two time points reveals a customer's psychology and potential intentions regarding the next service segment.</li> </ul>
Differences in dimensional levels to evaluate dimensional contribution to value	<ul style="list-style-type: none"> <li>● Extended from Hassan et al. (2013).</li> <li>● Experience levels in different dimensions (e.g., cognitive, social, physical) are used to determine the extent of value co-creation in these dimensions. To illustrate, when a customer's experience is characterized by a high level in the emotional dimension, and only a very weak strength in the social dimension, this indicates that value is created mainly through the customer's emotional dimension. This information can then be used to redesign the service accordingly to amplify strengths and address weaknesses.</li> </ul>
Peak and valley of levels to evaluate strengths and flaws of co-creation	<ul style="list-style-type: none"> <li>● Adapted from Ariely and Carmon (2000).</li> <li>● Peaks and valleys capture turning points in a customer's experience journey.</li> <li>● The peaks and valleys are used to determine an increase and a decrease in value defined by a customer.</li> </ul>
Level series of related activities to evaluate service portfolio value	<ul style="list-style-type: none"> <li>● Extended from Andrews et al. (2010).</li> <li>● Comparison of experience-level series across different service packages is used to determine the contribution of packaged activities towards overall service value.</li> </ul>
Unstructured feedback to evaluate the context of co-created value	<ul style="list-style-type: none"> <li>● Adapted from Nasr et al. (2018) and Korfiatis et al. (2019).</li> <li>● Unstructured feedback is linked to experience levels at corresponding time points. This is used to understand factors contributing to a certain level and to identify key aspects of customers' experience influencing the point at which they observe a service value.</li> </ul>

final optimal level, or dramatic rise and fall) can reveal strengths and flaws in the value co-creation interactions undertaken by a customer and a firm. The proposed facets track the changes in experience and enable the firm to manage and influence the value co-creation process involving its customer and other actors.

To fully capture value in the experience, the proposed schemes need to be deployed both during and beyond the service process. Gathering information on after-service experiences can be a challenging task. For instance, it may be difficult to find out fully what other actors interact with, or what other resource integrations take place. More complex and long-term services may, however, be better positioned to engage with customers after the service process (via inviting customers to a firm's events and report launches, granting a membership status, etc.).

### 3.5. Value-co-creation-driven service redesign

The outcomes of the value in the experience assessment identify strengths and weaknesses in the value co-creation process. In the proposed framework, the former can be amplified, and the latter can be mitigated through a mechanism of service redesign (Fig. 2, Arrow 4). This may require rearranging the sequence of activities and touchpoints, substituting for or eliminating some of them, and deciding whether to discontinue certain services. It may include improving facilities and the physical environment, redesigning the digital interface, training staff, and developing new products or services. From a firm's perspective, this works as a cyclical mechanism that warrants dynamic and continuous assessments and evaluations reflective of the most recent service changes (Hill et al., 2002). The outcome of this mechanism should be improved experience levels and value co-creation in the dimensions in question, and throughout the entire service journey.

## 4. Discussion

We find that existing frameworks for evaluating customer experience deployed in service design tend to neglect the connection between customer experience and value co-creation. This connection, however, can be critical for enhancing service design offerings to co-create a unique and preferred customer experience (Jaakkola & Alexander, 2014; Sweeney et al., 2015). This motivates us to offer an integrated framework for evaluating customer experience and value co-creation which fosters flexibility and accuracy of both on-the-spot service improvement and service redesign. We suggest that, in order to achieve its integratory objective, this framework needs to place, at its core, assessing value in the experience, which is always co-created and determined by the customer. Through the synchronized formation of customer experience and co-created value, our framework allows managers to understand the evolution of customer experiences rather than simply measure single satisfaction levels following a service completion. Once a firm has made changes to its service process and offerings through on-the-spot enhancements and/or redesign, it can further observe and analyze the impact of these changes at different time points in and even beyond the service process, and continuously redesign tasks to contribute to an increase in service value. Our framework is distinct in its proposal to integrate time-dependence and multidimensionality of the customer experience and to utilize this integration in assessing value in the experience and value co-creation. This approach has a number of theoretical and managerial implications in terms of utilizing customer experiences in service design.

### 4.1. Research implications

#### 4.1.1. Interlinking customer experience and value co-creation

This study offers a fundamental and explicit structure for understanding the linkage between customer experience and value co-creation as a factor of the service design performance, which prior research has struggled to adequately capture and structuralize (Gentile et al., 2007).

Centered on co-created value in the experience before, in, and beyond the service process, this structure offers a new integrated set of facets of customer experience and value co-creation. Due to its modular configuration, the proposed framework lends itself easily to additional more specific extensions which can, for instance, be related to methods for analyzing interactions between a customer and a firm (Patrício et al., 2011) and estimating a service value (Teixeira et al., 2017). Among possible research questions to enable such extensions could be

- how to evaluate different customer actions (e.g., resource integration, assessment of value propositions, direct interaction with a firm) affecting value co-creation;
- how to evaluate indirect interactions and firm's value facilitation outside the service process;
- how to evaluate a customer's social interactions with other actors that contribute to value in the experience.

#### 4.1.2. Enhanced assessment of value in customer activity flows

This study enhances the conceptualization of activity flows to create a more holistic and deeper understanding of value co-creation in a customer's journey, which fully captures the dynamics of customer experience and distinguishes between changes across its various dimensions. We argue that this provides more applicable references for identifying the strengths and weaknesses of a firm's service offering, making relevant service enhancements, and boosting service value. As we suggest that variations in experience levels displayed by a customer at every touchpoint need to be captured to adequately understand service value, further research effort should focus on developing more sophisticated assessment methods, including those digitally driven (Holmlund et al., 2020), to arrive at value levels. This could involve addressing the following questions:

- How to minimize disruption of the customer experience (e.g., in terms of frequency and depth of interactions) when assessing a co-created value?
- What digitally enabled interactions and techniques can be both efficient and socially responsible in assessing co-created value?
- How does a co-created value change over time? How can on-the-spot service enhancement be enabled for time-dependent value co-creation?

#### 4.1.3. Individually determined value in the experience

This study departs from most studies on customer satisfaction that use customer aggregation methods (Huang & Dubinsky, 2014) and, therefore, struggle to specify a customer's unique journey, which is critical for understanding a co-created value in the experience and its personal determinants. Correspondingly, the proposed framework extends the evaluation beyond the service process to capture customer experience before, during, and after the service process. Unlike existing evaluation frameworks, it can accommodate the notion of individually determined resource integration involving multiple actors and their resources. We propose that this approach can pave the way to advance research to address the following questions:

- how to integrate an individually determined value assessment with an aggregate assessment of customer experience;
- how to design individual experiences to facilitate customer's unique value co-creation;
- what the implications of the diversity of value co-creation by individuals are for the consistency of service quality.

### 4.2. Managerial implications

#### 4.2.1. Integrated evaluations for service design

The proposed framework suggests that business managers overseeing service design need to focus more on appreciating the interconnection

between customer experience and value co-creation that is enabled by value in the experience, and need to translate this understanding into the evaluation of service design offerings. We propose to use value in the experience assessments to create a dashboard for managers to indicate the service value as it is individually determined by a customer. By elevating the link between customer experience and value co-creation in and beyond the service process, the proposed framework equips firms with a method to untap new sources of competitive advantage arising from service design.

#### 4.2.2. Assessing the degree of co-created value

The proposed framework provides guidance for practitioners to develop an advanced comparative scale for assessing value in the experience. The proposed scale is translated into a level curve to determine individually contingent multidimensional customer experience levels and depict the evolutionary journey time-dependently. We suggest that service design evaluators use this level curve as a principal tool for reviewing fluctuating customer experience. This can help to reinforce value co-creation as the focus of the service design function of a firm. In this way, the firm can design and redesign service content through exploring and identifying value-enhancing interaction scenarios between customers, service providers, and other actors involved based on the degree of value arising from co-creation activities. Value-centric thinking needs to be strongly ingrained in other functions of a firm also, such as evaluating service performance and comparing and selecting service solutions.

#### 4.2.3. Less disruptive experience

The proposed framework is especially beneficial for complex and long-term services where firms may have more opportunities to effectively implement changes in the ongoing service process. For short-term services (e.g., dining at a restaurant), managers need to be aware that on-the-spot assessments and interventions can be challenging, as they depend on a customer providing substantive data on experience levels throughout the service period. Collecting these data from a customer can become meaningless if this disrupts experience and affects the subsequent experience levels. One way to minimize interference with the

service process is to make new technologies and related applications part of that experience (Chiocchia & Rau, 2021). While we suggest that managers creatively embrace new digital technologies (e.g., smartphone apps) to organically incorporate them into service, we should also caution about the possibility of undermining the authentic customer experience if the digitalization tools used (e.g., cameras to capture customer reactions and facial expressions) are viewed as unethical and intrusive. In this regard, managers need to pay particular attention to enhancing intra-organizational processes that can help them continuously learn how to enable a less disruptive co-creation experience, and improve the related evaluation methods according to the characteristics of their service (Peters & Fletcher, 2004).

## 5. Conclusions

To help businesses utilize customer experience better in service design, this study elaborates how customer experience and value co-creation constructs can be bridged in an integrated evaluation framework to deliver actionable insights for enhancing service offerings. It suggests that value co-creation can be observed and evaluated as a time-dependent and multidimensional customer journey as it is experienced by a customer through their particular emotional, cognitive, social, and physical responses. The proposed framework provides a guide on how to capture the value in experience and structuralize the evaluation of this customer journey. It does so by identifying and addressing key conceptual limitations of prior approaches for assessing customer experiences.

Through its interlinked facets of customer experience and value co-creation, the proposed framework makes businesses appreciate the impact of changes in customer experience and service design on service value. It enables the user to review dynamic individually determined customer experiences to assess value in the experience during and beyond the service process, make on-the-spot improvements to service operations, and follow up with a service redesign. The proposed framework is also flexible enough to consistently accommodate new conceptual and practical extensions related to evaluating customer experience and value co-creation.

## Appendix A. A systematic literature review on customer experience evaluations and value co-creation: Process and outcomes

Our systematic literature review on customer experience evaluations and value co-creation follows the Tranfield et al. (2003) method and includes the following stages: (1) identifying keywords and search strings, (2) searching bibliographic databases, (3) applying exclusion criteria in sequence, (4) extracting data according to the selected categories, and (5) synthesizing and streaming of the literature. These stages are further detailed in Table A1. Article exclusion stages are depicted in Fig. A1.

**Table A.1**

Stages of the systematic literature review.

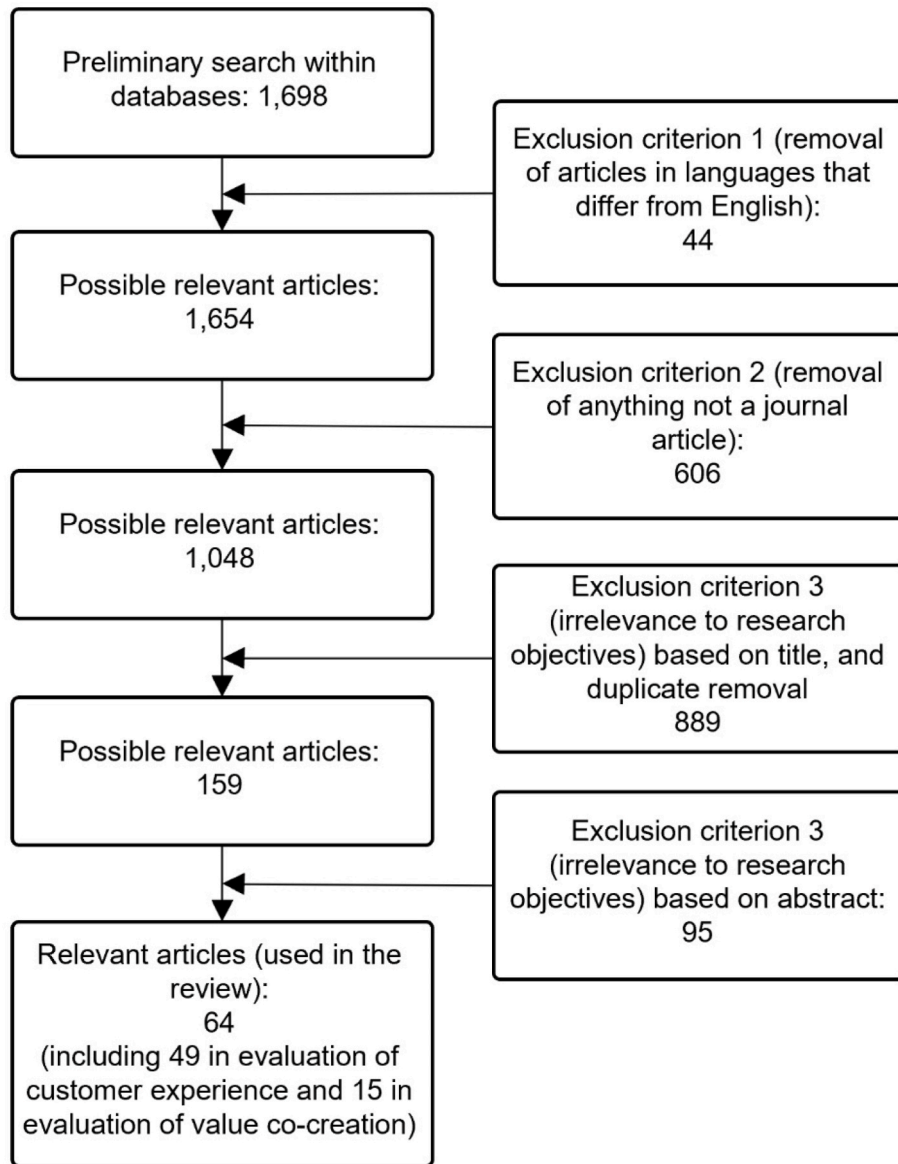
Stage	Description
1	Preliminary searches within key bibliographic databases were conducted to identify key articles in the field. Two groupings of keywords related to evaluations of customer experience and evaluations of value co-creation were derived from titles, abstracts, and keywords. The keywords were assembled into two search strings: 1. "Customer experience" OR "value co-creation" 2. "Evaluat*" OR "assess*" OR "measur*" OR "examin*" The Boolean operator "AND" was used in between the two search strings. The protocol for the use of these search strings was consistently applied within each database searched.
2	The search strings were used to search the following bibliographic databases: Scopus and EBSCO Business Source Complete. A total of 1698 citations were identified from the search.
3	The identified citations were assessed according to the first exclusion criterion; 44 articles in languages other than English were excluded. The remaining citations were assessed according to the second exclusion criterion; 66 articles that are not journal articles were excluded. The remaining citations were assessed according to the third exclusion criterion: thematic relevance to the objective of the review based on the title. At this stage, 889 citations were excluded, leaving a new total of 159. Duplicate articles were also excluded.

(continued on next page)



**Table A.1** (continued)

Stage	Description
	The relevance to the review objective criterion was then applied to abstracts of the remaining articles. In some cases where abstracts were not available, a small portion of the full text was evaluated. At this stage, 95 citations were excluded, leaving a new total of 64.
4	Data-extraction forms were used to compile relevant information about each citation. The 64 citations were grouped in two categories: (1) evaluation of customer experience (49 articles) and (2) evaluation of value co-creation (15 articles). All 64 articles were read and reviewed in full.
5	A timeline was constructed (Figure A.2) to indicate contributions in each of the categories. A thematic framework was developed (Figure A.3) to illustrate the macro-themes that emerged and their interrelationships across the two groupings of the evaluation literature streams.

**Fig. A.1.** Article exclusion stages.

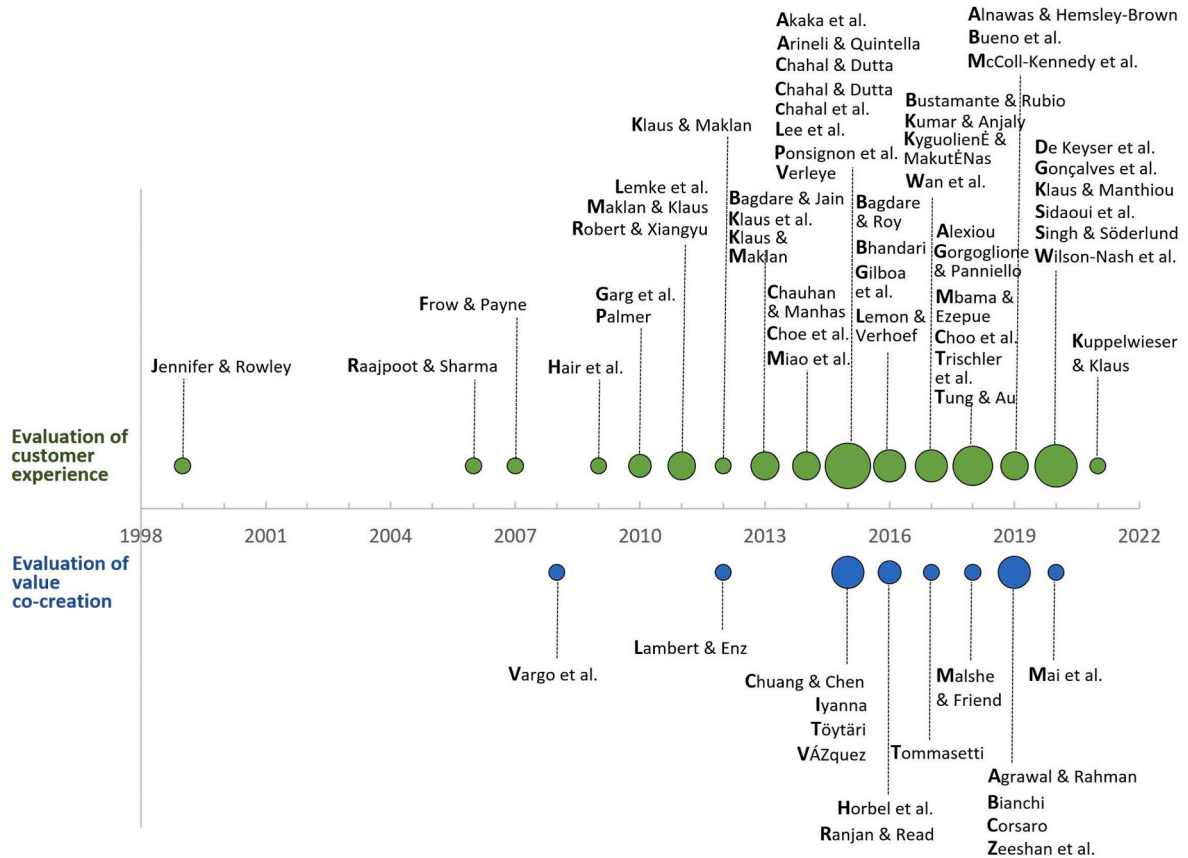
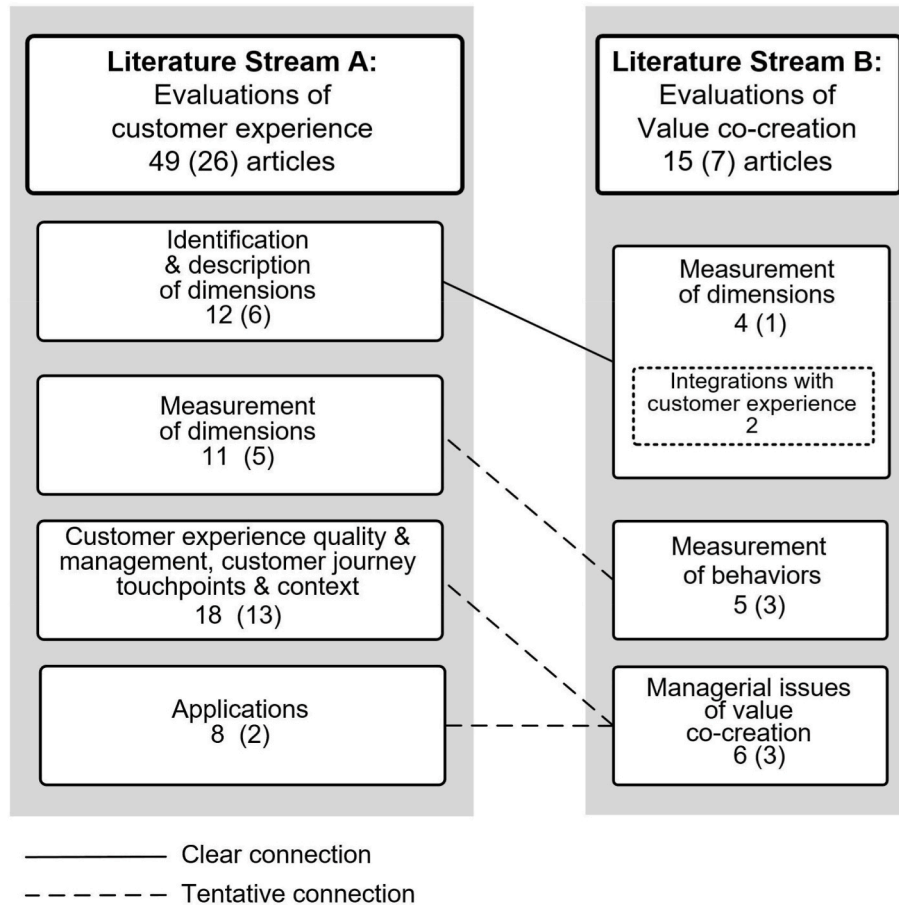


Fig. A.2. Publications by year (1999–2021).

Note: The size of the circles reflects the numbers of papers published.



**Fig. A.3.** Thematic focus by evaluation literature stream.

Note: Number in ( ) indicates studies related to service design.

Note: Literature streams on evaluation of customer experience and evaluation of value co-creation remain largely disconnected, although there are some clear thematic links across, as depicted by the solid lines. A number of papers are concerned with service design and evaluation of either customer experience or value co-creation, but none of those considers integration of customer experience and value co-creation evaluations for the purposes of enhancing service design.

#### Appendix B. Scale and curving for the evaluation scheme

Dynamic customer experiences are modeled as a series of levels. Customers are invited to assess the experience level every time they complete an activity. Levels may indicate positive and negative directions. The surveyed and scaled customer experience level (Fig. B1) can become an index to quantitatively measure the quality of the experience. Customer experiences in different dimensions are captured by the levels determined upon the completion of each activity. Different dimensions of customer experiences reflect changing perceptions influenced by multiple facets throughout the customer journey. Combining time-dependence and multidimensionality allows for a customer-centric service design; while the failure to do so results in an incomplete understanding of customer experiences.

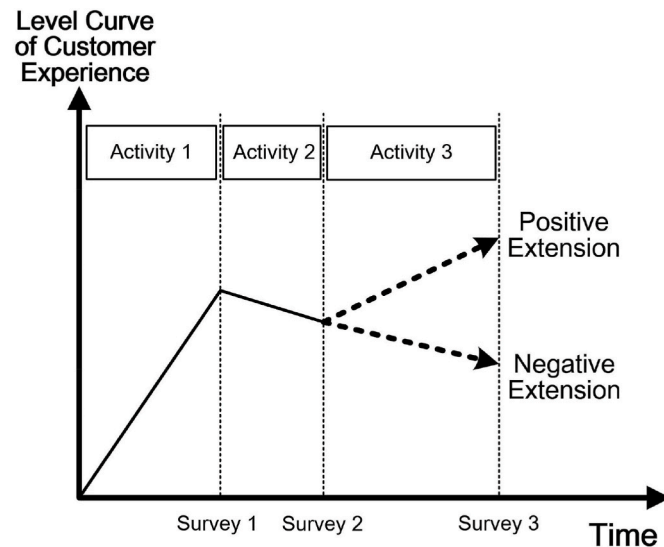


Fig. B.1. Level curve extensions for customer experiences during activity flow.

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